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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/552,562 | 04/19/2000 | Sun Gil Kim | K-164 | 3974 |
| 34610 | 7590 | 03/26/2004 | EXAMINER | |
| FLESHNER & KIM, LLP | | | CARTER, TIA A | |
| P.O. BOX 221200 | | | ART UNIT | |
| CHANTILLY, VA 20153 | | | PAPER NUMBER | |
| | | | 2626 | |

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,562

Applicant(s)

KIM ET AL.

Examiner

Tia A Carter

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9 and 23 is/are allowed.
- 6) ☒ Claim(s) 10-14 and 22 is/are rejected.
- 7) ☒ Claim(s) 15-21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-9 and 23 are allowed.
2. The following is an examiner's statement of reasons for allowance: The prior art searched and cited failed to overcome the limitations set forth in the present application.

Regarding claim the allowable subject matter is as cited :

A facsimile signal processor, which receives the facsimile signal processor, which receives the facsimile data from the interface unit, and converts the facsimile data into a digital signal with a radio data service format, or receives data in a radio data service format and converts it into an analog facsimile protocol to forward to the interface unit;

A CDMA signal processor, which receives the radio service formatted facsimile data from the facsimile signal processor and converts it into CDMA format, or receives data in CDMA format, converts it into the radio data format and forwards it to the facsimile signal processor; and

A frequency modulation / demodulation unit, which frequency modulates the CDMA formatted facsimile data to forward as a radio signal, or receives and

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demodulates an external radio signal, and forwards the received signal to the CDMA signal processor.

Regarding claim 23 the allowable subject matter is as cited:

Transmitting the analog facsimile signal to a modem through a first amplifier;

Forwarding the digital signal to a CDMA signal processor;

Converting the digital signal into a CDMA protocol; and

Modulating the CDMA protocol digital signal.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Claims 15-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 10-11 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Leung (US. 6281988).

Regarding claim 10 Leung discloses a signal processing device (see Fig. 2) comprising:

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An interface unit (RJ-11 interfaces) to couple with at least one input device and detect and receive a device signal or output a device signal (fig. 1, col. 5, lines 6-11 and Fig. 2, col. 5, lines 15-18 and lines 50-51);

Signal processor (Base station A-64) coupled to receive an interface signal and convert a data format of the signal or provide an interface signal to the interface unit (fig. 2, col. 5, lines 35-51);

A Code Division multiple Access (CDMA) signal processors (wireless subscriber unit A-62) coupled to receive a processed signal from the signal processor and generate a CDMA formatted signal (fig. 2, col. 5, lines 21-26) or receive a CDMA formatted signal and output a radio data formatted signal to the signal processor.

Regarding claim 11, Leung discloses the device of claim 10, further comprising a modulating (modulator-94A) and demodulating (demodulator-104A) unit communicatively coupled to the CDMA signal processor to receive or provide a CDMA formatted signal (fig. 5, col. 10, lines 1-36).

Regarding claim 22, Leung discloses the device of claim 10, wherein the signal processor receives an analog facsimile signal and converts it to a digital radio data service format (fig. 3, col. 6, lines 1-30)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leung (US. 6281988) in view of Kenmochi et al. (US. 5966669).

Regarding claim 12, Leung discloses the device of claim 10, wherein the signal processor comprises:

A Dual Tone Multi-Frequency (DTMF) receiver coupled to receive a control signal from the interface unit (fig. 1, col. 2, lines 4-31);

Leung **do not disclose** an amplifier communicatively coupled to the interface unit.

Kenmochi et al. **discloses** an amplifier (RF unit 2-13) communicatively coupled to the interface unit (Fig. 2, col. 6, lines 51-60);

Leung **do not disclose** a modem communicatively coupled to amplifier.

Kenmochi et al. **discloses** a modem (inside baseband-2-9) communicatively coupled to amplifier (inside RF 2-13)(fig. 2, col. 7, lines 2-4);
and

Leung disclose a controller communicatively coupled to the modem and the CDMA signal processor (fig. 2, col. 7, lines 11-19), wherein the modem receives an amplified interface signal and generates a modulated interface signal (fig. 5, col. 10, lines 37-40), or receive a modulated signal from the controller to generate a demodulated signal as the interface signal.

It would have been obvious to one skilled in the art at the time of the invention to modify Leung wherein an amplifier device and a modem connected thereto are implemented to provide a heightened signal provided from the system modem to be transmitted through the wireless environment.

Regarding to claim 13, Leung disclose the device of claim 12, wherein the controller further comprises:

Leung **do not disclose** a first memory device;

Leung **do not disclose** a second memory; and

Leung **do not disclose** a central processing unit wherein the first memory device stores a prescribed protocol, the second memory unit buffers a signal to be converted by the controller, and the CPU converts a format of the data stored in the second memory according to the protocol stored in the first memory.

Kenmochi et al. **disclose** a first memory device (RAM 2-4/ ROM 2-3)(Fig. 2, col. 6, lines 45-47);

Kenmochi et al. **disclose** a second memory (Backup memory 2-25) (fig. 2, col. 6, lines 45-47); and

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Kenmochi et al. **disclose** a central processing unit (CPU 2-2), wherein the first memory device stores a prescribed protocol, the second memory unit buffers a signal to be converted by the controller, and the CPU converts a format of the data stored in the second memory according to the protocol stored in the first memory (fig. 2, col. 6, lines 48-54 and col. 7, lines 9-15).

It would have been obvious to one skilled in the art at the time of the invention to modify Leung wherein multiple memory devices would have an operative function in the wireless system to prevent command, protocol and data loss, however it is inherent that Leung's devices comprised memory devices but it was not a feature that was disclose in the current prior art used. To implement the two memories along with an operable CPU would help to maintain the reception/transmission process of the wireless system claimed.

Regarding claim 14, Leung discloses the device of claim 10, further comprising:

Leung **do not disclose** a CODEC device communicatively coupled to the interface unit and the signal processor.

Kenmochi et al. **disclose** a CODEC device (inside baseband unit 2-9) communicatively coupled to the interface unit and the signal processor (fig. 2, col. 7, lines 38-42); and

Leung **do not disclose** a switching unit to selectively couple the CDMA signal processor to one of the signal processor and a computer

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Kenmochi et al. **disclose** a switching unit to selectively couple the CDMA signal processor to one of the signal processor and a computer (col. 30, lines 66-67 and col. 31, lines 1-4).

It would have been obvious to one skilled in the art at the time of the invention to modify Leung wherein Codec device and a switching unit are implemented to provide analog and digital conversion as well as to allow the system to selectively switch devices used for data transmission. These components if implemented will expand the wireless system allowing different data reception and transmission through a plurality of systems.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim (US. 6571109), Manning et al. (US. 6157846), Rabina et al. (US. 5953675), Willkie et al. (US. 5956651), Quirk et al. (US. 6052409), Lintula et al. (U.S. 5884190), Kweon et al. (US. 6057943), Shin (US. 6549543) and West et al. (US.6124949) are cited to show related art with respect to facsimile communication in a wireless environment.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia A Carter whose telephone number is 703 - 306-5433. The examiner can normally be reached on M-F (7:00-3:30).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly A Williams can be reached on 703-305-4863. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tia A Carter
Examiner
Art Unit 2626



TAC
March 19, 2004

MARK WALLERSON
PRIMARY EXAMINER

